

## DISCOVERY OF THE DIBBLER, *PARANTECHINUS APICALIS*, ON ISLANDS AT JURIEN BAY

By PHILLIP J. FULLER and ANDREW A. BURBIDGE,  
Department of Conservation and Land Management, Western  
Australian Research Centre, P.O. Box 51, Wanneroo,  
Western Australia 6065.

### INTRODUCTION

The dasyurid marsupial *Parantechinus apicalis* was considered to be possibly extinct until it was rediscovered at Hassell (Cheyne) Beach, east of Albany by M.K. Morcombe in 1967. Since then the many attempts to trap further specimens have resulted in very few captures and the Dibbler is currently considered to be a rare species, as reflected in its declaration under Section 14(2)(ba) of the Wildlife Conservation Act 1950 (Anon. 1983).

### PREVIOUS TRAPPING

Ride (1970), Woolley (1977, 1980) and Woolley and Valente (1982) have documented the various attempts, mostly unsuccessful, to trap the species along the south coast of Western Australia prior to 1981. Woolley and Valente (op. cit.) have also attempted, unsuccessfully, to locate it by identifying hairs in predator scats. We have attempted to trap Dibblers at the original Cheyne Beach locality and an Oldfield Location 815 (33°47'S, 120°21'E) near Jerdacuttup (Table 1). More recently, Muir (1985) reported that a dead Dibbler, probably killed by a fox, had been found in Fitzgerald River National Park. Since then seventeen individuals have been trapped in eight localities in and near the Park (A. Chapman pers. comm.).

Table 1: Trapping effort along south coast, 1979 and 1981.

Locality	Date	Trap type	Trap-nights
Cheyne Beach	6/3 — 8/3/79	Elliott	96
	6/3 — 8/3/79	Pit-fence	108
Cheyne Beach	20/11 — 28/11/79	Elliott	856
	20/11 — 28/11/79	Pit-fence	382
Jerdacuttup	15/12 — 20/12/81	Pit-fence	198

### TRAPPING ON JURIEN BAY ISLANDS

On 31 October 1985, while on a Department of Conservation and Land Management survey of islands between Lancelin and Dongara, one of us (PJF) saw mammal tracks on Boullanger Island (30°19'S, 115°00'E) which were larger than the *Sminthopsis* and *Mus* known to occur there. On a return visit to the island on 3 December 1985, 18 medium Elliott traps (26x10x10 cm) were set for one night, baited with a mixture of peanut paste, sultanas and bacon. The result was the capture of 10 *Mus musculus* and one Dibbler.

We returned to Boullanger Island on 10 December to carry out further trapping and also trapped on nearby Whitlock, Escape and Favourite Islands. Table 2 summarizes the trapping data. On Boullanger Island we trapped 24 *P. apicalis*, including one

Table 2: Trapping data, Jurien Bay Islands, 1985.

Island	Date	Trap type	No.	Captures	
Boullanger	3/12/85	Elliott	18	1 <i>P. apicalis</i> 10 <i>M. musculus</i>	
		Elliott	158	11 <i>P. apicalis</i> 90 <i>M. musculus</i>	
	10/12/85	Pit-fence	30	4 <i>P. apicalis</i> 5 <i>Sminthopsis</i> 11 <i>M. musculus</i>	
		Elliott	108	3 <i>P. apicalis</i> 58 <i>M. musculus</i>	
	11/12/85	Pit-fence	18	4 <i>Sminthopsis</i> 7 <i>M. musculus</i>	
		Elliott	108	4 <i>P. apicalis</i> 31 <i>M. musculus</i>	
	Whitlock	11/12/85	Elliott	25	3 <i>P. apicalis</i> 13 <i>M. musculus</i>
			Pit-fence	6	2 <i>P. apicalis</i> 4 <i>M. musculus</i>
12/12/85		Elliott	25	3 <i>M. musculus</i>	
		Pit-fence	6	8 <i>P. apicalis</i> 7 <i>M. musculus</i>	
Favourite	11/12/85	Elliott	25	Nil	
		Pit-fence	6	Nil	
Escape	12/12/87	Elliott	25	Nil	
		Pit-fence	6	Nil	

recapture, and on Whitlock Island we trapped 14, including one recapture. On both islands *Mus musculus* was extremely abundant. (209 captures on Boullanger, 27 on Whitlock). A dunnart, *Sminthopsis* sp. probably *dolichura* (D.J. Kitchener pers. comm.), previously recorded on Boullanger Island by G.M. Storr in 1961 (W.A. Museum M5424), was captured by us only in pit-fence traps — 13 captures, including two recaptures. No mammals were trapped on either Favourite or Escape Islands, although we saw small mammal tracks the size of a small mouse or *Sminthopsis* on the latter.

The tracks and droppings of what appeared to be a single large kangaroo (presumably *Macropus fuliginosus*) were common on Boullanger Island. This animal must have been taken to the island in recent years, since it was not recorded by Ford (1963 and pers. comm.).

#### FOOD

Scats collected from Elliott traps on Boullanger and Whitlock Islands were examined qualitatively under a microscope. No differences were apparent between the islands. The remains were mainly arthropods, so well chewed and digested as to make identification of most of them impossible. Parts that could be identified included portions of grasshoppers, cockroaches, beetles, termites and spiders. A few very small feathers were found in one scat and small quantities of plant material were seen.

Some mammal hairs were present — all of these appeared to be Dibbler fur, presumably ingested while grooming. No pollen was detected.

The scat analysis suggests that on Boullanger and Whitlock Islands, in early summer, *P. apicalis* is carnivorous, eating mostly entirely arthropods.

### REPRODUCTIVE BIOLOGY

Woolley (1971) reported that *P. apicalis* is an autumn breeder and that both males and females are sexually quiescent at other times of the year. Both sexes are thought to be able to breed in more than one season.

Observations on the Boullanger and Whitlock Island animals were not inconsistent with this view. The 23 females examined varied in weight from 36 to 57g; the seven largest (45-57g) had developed but mainly clean pouches, while the remainder (36-45g) had no pouch development. The 12 males examined varied in weight from 38 to 65g, but fell into two groups, <44g (7) and >46g (5). All had small testes with scrotum widths varying from 11 to 14mm ( $\bar{x}$  = 12.2mm, Table 3).

Table 3: *Parantechinus apicalis* from Jurien Bay Islands — body weight and breeding data.

Island	MALES		FEMALES	
	Body Wt (g)	Scrotum Width (mm)	Body Wt (g)	Pouch dev ?
Boullanger	38	12	34	no
	40	12	36	no
	43	12	36	no
	43	11	37	no
	43	11	38	no
	43	12	40	no
	47	12	43	no
	51	12	45	no
	62	14	50	yes
	65	12	53	yes
			56	yes
	Whitlock	42	12	34
58		14	35	no
			35	no
			36	no
			37	no
			42	no
			43	no
			45	no
			45	yes
			45	yes
			49	yes
		57	yes	

### HABITAT

Most of Boullanger Island (25 ha) consists of deep sandy soil, but there is a small area of limestone at the northern end, often cut off from the rest at high tide. The vegetation of the sand area was a low closed heath with a variety of species including *Nitraria schoberi*, *Acacia cyclops*, *Olearia axillaris*, *Myoporum insulare* and *Scaevola crassifolia* over scattered low herbs and sedges including *Lepidosperma gladiatum* and the sub-shrub *Acanthocarpus preissii*. *Spinifex longifolius* was common around the perimeter.

The limestone area had pockets of sand with closed heath of *Nitraria*, *Rhagodia baccata*, *Zygophyllum* sp. and *Acanthocarpus*. On the limestone there was a closed herbfield.

Whitlock Island (5.4 ha) is partly limestone with skeletal soils and partly a dune. The limestone was vegetated with a closed herbfield including *Disphyma* and *Carpobrotus* while deeper pockets of soil contained a rich complex of low shrubs including *Pimelea* sp., *Templetonia retusa*, *Phyllanthus calycinus* and *Atriplex* sp. The dune had a closed heath of *Atriplex* sp. and *Nitraria labillardieri*.

When released *P. apicalis* invariably ran quickly into one of the many seabird burrows that are common on the islands.

#### DISCUSSION

The Dibbler was abundant on both Boullanger and Whitlock Islands in December, 1985. It was easily trapped in both Elliott metal traps and pit-fence traps. At the time of our visit it was feeding almost entirely on arthropods, and although one killed and partly consumed a *Sminthopsis* which fell into the same pit trap, there was no evidence from scat examination that it was consuming the very abundant *Mus* or the not uncommon *Sminthopsis* under natural conditions. The animals trapped were sexually quiescent, consistent with Woolley's (1971) data that the species is an autumn breeder.

Since the rediscovery of the Dibbler in 1967, all specimens have come from the south coast of Western Australia, between Albany and Esperance. However, John Gilbert's original collections included specimens from "Moore River", i.e. the New Norcia district, so the Jurien Bay islands are not distant from the known range of the species (Morcombe 1967).

The existence of the populations on Boullanger and Whitlock Islands greatly enhances the conservation status of the Dibbler and improves its chances of long term survival. Both islands are Nature Reserves. However, they are small and close to the town of Jurien; Boullanger, in particular, is often used for recreational activities. Careful management of the islands will be needed to ensure that the Dibbler populations persist.

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### NOTES ON KIMBERLEY BIRDS

By JULIAN FORD, Western Australian Institute of Technology,  
Kent Street, Bentley, Western Australia 6102.

Storr (1980) produced a synthesis on the occurrence, status, taxonomy and breeding seasons of birds in the Kimberley Division of Western Australia. From 25 February to 4 May 1986 I carried out field research with N. Kolichis, A. Bougher and J. Brandenburg on the birds of the Kimberley and neighbouring part of the Northern Territory. New information is reported in these notes.

#### *Aviceda subcristata* **Crested Hawk**

This species is seldom seen in the Kimberley. On 27-28 April four were seen and two collected in dense eucalypt woodland 2 km west of Oobagooma homestead, near the south-western corner of the Wyndham range.

#### *Petrophassa albipennis* **White-quilled Rock-Pigeon**

We found four nests with eggs: a fresh clutch of two on 3 March near Galvans Gorge; two eggs chipping on 19 March near Manning Gorge; one partly incubated egg on 26 March in a broken sandstone range about the upper Drysdale (18 km north of Mt Lacy); and two fresh eggs on 12 April at Skinner Point, N.T. Each nest consisted of a scanty platform of twigs in a slight depression on large flat-topped boulders varying in size from about 2.5 to 6 m<sup>3</sup>. This species was common in the Bungle Bungle Range especially about Piccaninny Creek where we saw 30-40 birds on 19 April; this better defines the south-eastern range limit in the Kimberley.

#### *Calyptorhynchus magnificus* **Red-tailed Black-cockatoo**

On 4 May we saw four birds near the Sandfire Roadhouse. It is unknown whether they belonged to the Kimberley population (subspecies *macrorhynchus*) or the Pilbara population (subspecies *samuelli*).

#### *Cacatua sanguinea* **Little Corella**

On 3 May about 20 corellas were feeding beside the road 27 km south-west of the Anna Plains turnoff, and on 4 May about ten were flying over an almost treeless spinifex-covered plain 8 km